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Docket No. K-0386

Amdt. dated November 29, 2004

Reply to Office Action of September 30, 2004

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A driving circuit of an active matrix method in a display device comprising:

a first switch connected to data and scan lines to switch an externally applied control voltage;

a driving unit storing the control voltage by switching of the first switch, and making the display device ~~emitting~~ emit lights by the stored control voltage;

a second switch switching a current applied to the display device by the control voltage applied from the driving unit; and

a deviation compensator detecting the current applied to the display device by switching of the second switch, and controlling the control voltage, thereby compensating luminance deviation of the display device according to deviation of the threshold voltages of the driving unit,

wherein the deviation compensator comprises:

a converter converting the current applied to the display device to a voltage,

a comparator comparing the voltage value converted by the converter with a reference voltage value, and

a sample & hold circuit (S & H circuit) receiving an external ramp voltage, and outputting a certain ramp voltage to the data line according to result of the comparator.

2. (Canceled).

3. (Currently Amended) The driving circuit of the active matrix method in the display device as claimed in claim [[2]] 1, wherein the S & H circuit outputs the ramp voltage value constantly maintained to the data line when the converted voltage value is same as or lower than the reference voltage value, and the S & H circuit bypasses and outputs the external input ramp voltage value to the data line when the converted voltage value is higher than the reference voltage value.

4. (Currently Amended) The driving circuit of the active matrix method in the display device as claimed in claim 1, wherein the deviation compensator ~~comprising;~~
comprises:

a transimpedance amplifier converting the current applied to the display device to a voltage amplified,

a comparator comparing the voltage converted by the transimpedance amplifier with a reference voltage, and

a S & H circuit receiving an external ramp voltage , and outputting a certain ramp voltage to the data line according to result of the comparator.

5. (Original) The driving circuit of the active matrix method in the display device as claimed in claim 4, wherein the S & H circuit outputs the ramp voltage value constantly maintained to the data line when the converted voltage value is same as or lower than the reference voltage value, and the S & H circuit bypasses and outputs the externally input ramp voltage value to the data line when the converted voltage value is higher than the reference voltage value.

6. (Currently Amended) The driving circuit of the active matrix method in the display device as claimed in claim 1, wherein the second switch ~~comprising~~; comprises:

a first transistor formed between the driving unit and the display device to switch the current applied to the display device, and

a second transistor formed between the driving unit and the deviation compensator to switch the current applied to the deviation compensator.

7. (Original) The driving circuit of the active matrix method in the display device as claimed in claim 6, wherein the first and second transistors are PMOS transistors, and are driven by different control signals.

8. (Currently Amended) The driving circuit of the active matrix in the display device as claimed in claim 6, wherein the first transistor is an NMOS transistor, and the second transistor is a PMOS transistor, and the first and second transistors are driven by an equal control signal.

9. (Currently Amended) The driving circuit of the active matrix in the display device as claimed in claim 1, further comprising an amplifier formed between the second switch and the deviation compensator, which amplifies the applied current by switching of the second switch, and inputs the amplified current to the deviation compensator.

10. (Currently Amended) The driving circuit of the active matrix in the display device as claimed in claim 9, wherein the amplifier ~~comprising;~~ comprises:

a third transistor having a gate connected to an output terminal of the second switch, and outputting the current amplified by a voltage difference between gate and source to the deviation compensator, and

a fourth transistor connected to gate and ground of the third transistor, and controlling the voltage difference by an externally applied control signal.

11. (Original) The driving circuit of the active matrix method in the display device as claimed in claim 10, wherein the third and fourth transistors are NMOS transistors.

12. (Currently Amended) A driving circuit of an active matrix method in a display device comprising:

a switching unit connected to data and scan lines, and switching an externally applied control voltage;

a driving unit storing the control signal by switching of the switching unit, and making the display device emit lights by the voltage stored;

a deviation compensator detecting a current applied to the display device, and controlling the control voltage, thereby compensating luminance deviation of the display device according to deviation of threshold voltages of the driving unit;

a first transistor formed between the driving unit and the display device to switch the current applied to the display device; and

a second transistor formed between the driving unit and the deviation compensator to switch the current applied to the deviation compensator.

wherein the deviation compensator comprises:

a converter converting the current applied to the display device to a voltage,

a comparator comparing the voltage value converted by the converter with a reference voltage value, and

a S & H (sample and hold) circuit receiving an external ramp voltage, and outputting a certain ramp voltage to the data line according to result of the comparator.

13. (Canceled).

14. (Currently Amended) The driving circuit of the active matrix method in the display device as claimed in claim [[13]] 12, wherein the S & H circuit outputs the ramp voltage value constantly maintained to the data line when the converted voltage value is same as or lower than the reference voltage value, and the S & H circuit bypasses and outputs the externally input ramp voltage value to the data line when the converted voltage value is higher than the reference voltage value.

15. (Currently Amended) The driving circuit of the active matrix method in the display device as claimed in claim 12, wherein the deviation compensator ~~comprising~~ comprises:

a transimpedance amplifier converting the current applied to the display device to ~~[[a]]~~ an amplified voltage,

a comparator comparing the voltage converted by the transimpedance amplifier with a reference voltage value, and

a S & H circuit receiving a ramp voltage and outputting a certain ramp voltage according to result of the comparator.

16. (Currently Amended) The driving circuit of the active matrix method in the display device as claimed in claim 12, wherein the switching unit, and the first and second transistors are PMOS transistors, and are respectively driven by different control signals.

17. (Currently Amended) The driving circuit of the active matrix method in the display device as claimed in claim 12, wherein the switching unit and the second transistor are PMOS transistors, and the first transistor is an NMOS transistor, and the switching unit, the first and second transistors are driven by an equal control signal.

18. (Currently Amended) The driving circuit of the active matrix method in the display device as claimed in claim 12, further comprising an amplifier formed between the second transistor and the deviation compensator, which amplifies the applied current by switching of the second transistor, and inputs the amplified current to the deviation compensator.

19. (Currently Amended) The driving circuit of the active matrix method in the display device as claimed in claim 18, wherein the amplifier ~~comprising~~; comprises:

a third transistor having a gate connected to an output terminal of the second transistor, and outputting the current amplified by a voltage difference between the gate and source to the deviation compensator, and

a fourth transistor connected to a gate and ground of the third transistor, and controlling the voltage difference by an externally applied control signal.

20. (Original) The driving circuit of the active matrix method in the display device as claimed in claim 19, wherein the third and fourth transistors are NMOS transistors.